FY21 MassWildlife Habitat Management Grant Program Application Form

(Instructions: Maximum 10 pages, size 11 Calibri or Times New Roman font, Microsoft Word required for use. If you have questions on this application or problems with its use, please contact James Burnham at james.burnham@mass.gov)

1. PROJECT TITLE: Shrubland habitat creation at Back to Nature Reserve

2. Project description:
   - Brief description of proposed project / management strategy
   - Need for this project
   - Benefit(s) of this project

   The project will improve grassland, shubland and coastal habitats in West Norin as a means to significantly enhancing natural features for wildlife and birds. Grassland habitats improvements will be completed by removing trees in successional edge-habitat, controlling shrubs in overgrown field edges, and practicing measures to control invasive broad-leafs within the fields themselves. Shrubland improvements will be by removing large trees in succeeding shrubland acreage adjacent to grassland habitats. Barrier-beach and coastal shrubland habitat will be completed by controlling invasive Rugosa Rose. Due to the decline of grassland and shrubland habitat in the region, we have made it a priority to actively manage early successional habitats. The shrubland habitat north of the restored grassland is rampant with invasive shrubs, and some areas are gradually succeeding into forest. Rugosa rose on the barrier beach shades out native species in coastal habitats and forms dense mono-species patches. As native plant life is displaced, the animal species that depend on those native plants are also threatened, including state-listed insects and plants and state listed Piping Plover nesting habitat.Efforts to actively manage grassland habitats for birds include careful monitoring of breeding birds and the practice of delayed mowing to protect nesting Bobolink and Savannah Sparrow. By continuing to expand grassland habitat along edges of grasslands we aim to attract Eastern Meadowlark or Grasshopper Sparrow to breed in the future. By mitigating the primarily broad-leaf invasive species and removing the largest trees our grasslands will be better suited to offer these rare birds prime nesting habitat.

3. Applicant name: Norin Land Trust

4. Address of applicant: 18 Main Street
   City/Town: West Norin State: MA Zip Code: 02121

5. Contact person's name: Sally

6. Email address: sally@norinlandtrust.org

7. Phone number: 928.140.4446

8. Applicant type (Check one):
   - ○ Private Individual
   - ○ Municipality
   - ◉ Non-Governmental Organization

   Other (explain):

9. Project Location (property name/street/town/etc.): Back to Nature Reserveis located in West Norin, MA on the south coast of Massachusetts. This more than 400-acre coastal property includes beach, dune, oak woodland, and a broad and globally rare mosaic of sandplain grassland and heathland.

10. Record title owner(s) of the property/properties: Norin land Trust

11. Is the applicant the owner, or one of the

	owners, of the project site parcel(s)?	(•) Yes ( ) No
12.	If 11 is "no", describe the relationship between the applicant and the parcel owner. (Include a signed statement from the owner(s) that they approve of this proposed management, and have given permission for the applicant to conduct these activities on their property in the grant proposal application package.)	N/A
13.	Level of Protection (highlight appropriate category): APR Conservation Restriction Chapter 61, 61A/B LIP Covenant Town Conservation Land Organization whose primary mission is conservation Other (explain):	
14.	If the level of protection is an "organization whose primary mission is conservation", please include the mission statement or descriptor of the organization's purpose:	The Norin Land Trustpreserves, for public use and enjoyment, properties of exceptional scenic, historic, and ecological value in along the South Coast of Massachusetts.
15.	If there is a conservation restriction or easement checked in row 13, list the holder of the easement/CR: (Be sure to include a letter from the holder in your application package appendix saying that they support the management being proposed in your project.)	N/A
16.	Is all or a portion of your project in Priority Habitat?: Yes	Did you contact the Natural Heritage and Endangered Species Program (NHESP) for a consultation?: Yes (If yes, please include the feedback received from NHESP with your application package in the appendix.)
17.	Total **Parcel Size** Acreage: 432	Total **Treatment Unit(s)** Acreage: 40
18.	Description and size of habitat types on each **Treatment Unit(s)**: List of upland and wetland habitat types from the State Wildlife Action Plan that can be found on Table 4-1 here.	

*Acreages listed for habitat types in this section should sum to equal the **Treatment Unit** acreage in Section 16. Each Treatment Unit must be clearly marked on the maps submitted with the application package, and the total parcel outline should be marked.*

*Treatment Unit **EXAMPLE** Current SWAP Habitat(s):* *Grasslands* *Transition Hardwoods-White Pine Upland Forest* *Additional notes:*	*Treatment EXAMPLE Desired SWAP Habitat(s):* *Grasslands* *Young Forests and Shrublands* *Additional notes:*	*Acres:* *20* *10* *Additional notes:* *20 acres of grasslands will be improved by removing woody vegetation and treating invasive species. 10 acres of white pine / hardwood forest adjacent to the grasslands will be cut to create young forest habitat.*
Treatment Unit #1 Current SWAP Habitat(s): Pitch Pine-Oak Upland Forest Additional notes:	Treatment Unit #1 Desired SWAP Habitat(s): Scrub Oak Shrubland Additional notes:	Acres: 34 Additional notes: 34 acres of scrub oak shrubland will be restored using heavy mowing to encourage scrub oak shrublands with sandplain grassland and heathland components. Where necessary, invasive species will be treated over the 34 acres.
Treatment Unit #2 Current SWAP Habitat(s): Shrubland Additional notes:	Treatment Unit #2 Desired SWAP Habitat(s): Grassland Additional notes:	Acres: 6 Additional notes: Sixacres of taller shrubs and small trees within the unit will be heavy mowed to restore sandplain grassland and heathland.

			Native cool season grasses will be planted to augment and improve the site.
	Treatment Unit #3 Current SWAP Habitat(s): Additional notes:	Treatment Unit #3 Desired SWAP Habitat(s): Additional notes:	Acres: Additional notes:
	Treatment Unit #4 Current SWAP Habitat(s): Additional notes:	Treatment Unit #4 Desired SWAP Habitat(s): Additional notes:	Acres: Additional notes:
	Treatment Unit #5 Current SWAP Habitat(s): Additional notes:	Treatment Unit #5 Desired SWAP Habitat(s): Additional notes:	Acres: Additional notes:

19.	Specific management objectives, tasks, and budget per treatment unit. (Each objective and task described here must correspond to each treatment unit listed and described in #17.)	*Example:* *Treatment Unit #1- Native Warm Season Grassland Habitat* • *Objective 1: Increase the size of the field by 3 acres* ○ *Task 1: Remove woody vegetation along field edges back to original field boundaries; winter 2019/2020* ○ *Task 2: Seed reclaimed field edges with warm season grass mix; spring 2020* • *Budget for Treatment Unit #1: $3,000* *Etc.* **Treatment Unit #1** Objective 1: Improve scrub oak shrubland and frost bottom habitat at NorinPoint

		• Task 1: Heavy mowing of 34 acres of the Norin PointBottom(contractor –January-April 2021) • Task 2: Invasive species control (staff – April – June 2021) Budget for Treatment Unit #1: $12,306 **Treatment Unit #2** Objective 1: Encourage herbaceous growth anddecrease woody vegetation that has increased with cool-season mowing and burning on the Noman's Neck Sandplain Grasslands portion of NorinPoint • Task 1: 6 acres of spot heavy mowing (over an area of 16 acres) on portions of Nahommon's Neck that have outgrown the ability to be managed with a tractor driven Brushhog (contractor –January-April 2021) • Task 2: Augment site with planting of native grasses and forbes. (staff – April – May 2021) Budget for Treatment Unit #2: $6,438 **Treatment Unit #3** **Treatment Unit #4** **Treatment Unit #5**
20.	How will the proposed habitat enhancement compliment or benefit from other existing habitats within the local landscape, especially other habitats on conserved lands?	Back to Nature Reservesupports a spectacular diversity of rare and uncommon speciesand The Norin Land Trusthas been committed to a long-term landscape-scale habitat restoration and its maintenance program to promote this diversity. Approximately 200 of the 400 acres are managed as a barrens habitat mosaic through mechanical treatments and prescribed fire.The remainder of the property is open water (coastal ponds) and coastal beach, managed for rare shorebirds including least terns and piping plovers. Succession has marched on and the tree oaks and pitch pines now need to be mowed to maintain the scrub oak shrubland and patches of grassland and low heathland. The height and diameter of the trees and shrubs now exceed the capabilities of the Norin Land Trust'smowing equipment. Furthermore, growing season mowing of the grasslands is needed to reverse the decades of dormant season mowing and cool-season fires that has encouraged woody plants. The proposed habitat management will rejuvenate 34acres of high-quality shrublands (e.g., scrub oakbarrens) at the core of the Refuge and benefit a suite of invertebrates dependent on scrub oak,and provide gaps for herbaceous rare and at-risk plant species that are currently being shaded out. Shrub-dependent bird species will also benefit as the current habitat is near its life expectancy as high-quality shrub habitat.

		Growing season mowing of the grasslands will help reverse the increasing shrub content of the grasslands and benefit the plants and animals that require greater light and bare soil habitat. For decades these grasslands have been managed “off-season” during the fall through spring for habitat maintenance following general convention. Long-term research and observations have confirmed this management has allowed woody plant cover to increase and even dominate over much of what used to be high-quality sandplain grassland. Improved sandplain grasslands will benefit breeding raptors such as harriers and barn owls,but also migrating and wintering species such as short-eared owls. The federally-listed sandplain gerardia will benefit as little bluestem, its host species, increases in dominance and woody competitors are reduced. A suite of pollinators will benefit tremendouslyas well, including rare and declining bees, as a result of management that encourages abundant flowers for foraging and the creation of nesting habitat.
21.	List the game species (species that are legally hunted/fished/trapped) that occur in the area and are expected to have a net benefit from the proposed habitat enhancement actions in the project. Describe the direct connection between the habitat enhancement being conducted and the benefit to the identified game species. (There may be overlap between this section and section 21.)	white-tailed deer coyote turkey eastern cottontail
22.	List the Species of Greatest Conservation Need that occur in the area and are expected to have a net benefit from the proposed habitat enhancement actions of the project. Describe the direct connection between the habitat enhancement being conducted and the benefit to the identified SWAP species.	Back to Nature Reservesupports thegreatest concentration of rare and at-risk species within the Trust’s seventeen properties. The mosaic of barrens habitats including sandplain grassland, heathland, shrubland and woodland supportsthe majority of these species including:Eastern Whip-poor-will (Antrostomus vociferous) –largest population on Norin Land Trustproperties. Savannah Sparrow (Passerculus sandwichensis) American Kestrel (Falco sparverius) – migration Short-eared Owl (Asio flammeus) –migration/wintering Barn Owl (Tyto alba)-has been a long-term breeder Chimney Swift (Chaetura pelagica) Northern Harrier (Circus cyaneus) Northern Bobwhite (Colinus virginianus) Eastern Towhee (Pipilo erythrophthalmus) Blue-winged Warbler (Vermivora cyanoptera) Field Sparrow (Spizella pusilla) Brown Thrasher (Toxostoma rufum)

		Northern Black Racer (Coluber constrictor) Smooth Greensnake (Opheodrys vernalis) Bushy Rockrose (Crocanthemum dumosum) Sandplain Blue-eyed Grass (Sisyrinchium fuscatum)
23.	Is the entire site, or a portion/portions thereof open to wildlife recreation (birding, etc.)? (describe)	The entire site is open for visitors. Back to Nature Reserve is a popular destination of visitors interested in passive recreation in nature. The beach portion of the property is a popular summer destination. Due to the incredible biodiversity present, this property offers excellent opportunities for wildlife viewing year-round. An onsite nature center hosts educational programs and is open for the public to learn more about the property.
	Are there any requirements such as fees, written permission, special permits, memberships, or other conditions to gain access? (describe)	Admission Fees: Mid-June to mid-September: Norin Land Trust Members and children: FREE. Nonmembers: $5 per car; pedestrian/bicyclist $andchildren 15 and under FREE. Mid-September to mid-June: FREE to all.
24.	Is the entire site, or a portion(s) thereof open to fishing? (describe)	Surf fishing is allowed from the beach and freshwater fishing is allowed from shore at Norin PointPond.
	Are there any requirements such as fees, written permission, special permits, memberships, or other requirements? (describe)	Proper fishing license(s) is required.
25.	Is the entire site, or a portion(s) there of open to hunting? (describe)	The property is open to hunting but “by permission.” Over the last three seasons there have been 8, 11and 12 deer harvested from Back to Nature Reserve. Back to Nature Reserve also allows waterfowl hunting, turkey hunting, and coyote hunting (coyote hunting is only allowed after the reserve is closed to the general public).
	Are there any requirements such as fees, written permission, special permits, memberships, or other conditions to gain access? (describe)	Written permission is required. Membership is encouraged, but not required.
	Are there limits to game species that may be taken, seasons, or numbers of hunters allowed access? (describe)	Only deer, waterfowl, turkey and coyote hunting is allowed. Up to 25 hunters are granted access annually on a first come first serve basis.
	If permission is required, how many individuals applied permission and how many received permission	Numbers of hunters requesting permission andthose that receive it are similar annually. Between 14 and 18 hunters have requested permission over the last three years. Only one applicant has been

	during the previous three hunting seasons?	denied and that was for a prior violation of refuge rules.
26.	Is the entire site, or a portion(s) thereof open to trapping?(describe)	The property is not open to trapping.
	Are there any requirements such as fees, written permission, special permits, memberships, or other conditions to gain access? (describe)	N/A
	Are there limits to the furbearer species that may be taken, seasons, or numbers of trappers allowed access? (describe)	N/A
	If permission is required, how many individuals applied permission and how many received permission during the previous three trapping seasons.	N/A
27.	Describe any collaboration with other conservation or education groups that benefit habitat management on this site or on the nearby landscape.	Through a written agreement the Billy Ocean Education Program >1,000 students are reached using Back to Nature Reserveto teach about restoring native habitats for wildlife and plants, weather patterns, coastal life, land use history on Martha's Vineyard, nature writing, oyster ecology, and seaweed reproduction and phenology. They also work with Boy Scouts, homeschool groups, and CampQuail, using Back to Nature Reserve to host educational programs. The open sandplain habitats are the backdrop for this engagement and frequently the subject. The Nature Institute holds an 82 acre conservation restriction (CR) on the eastern boundary of Back to Nature Reserve for conservation purposes (this is not a part of the acreage we are proposing to manage under this grant). Biodiversity Works, a non-profit,is currently conducting an acoustic survey for Northern long-eared bats (Myotis septentronalis), a federally threatened and state endangered species. They have also captured a black racer and inserted a radio transmitter to track movement and habitat use at the property. This species is declining and is listed under the State Wildlife Action Plan.
28.	Climate Change Adaptation - Describe how restoration and management practices address climate change adaptation. (One resource for this analysis is the	The Norin Land Trust manages for habitat resiliency in many ways including minimizing threats to habitats such as controlling invasive species and hunting overabundant deer. Few invasive plants occur at Norin Point and control measures are in place to prevent invasives from displacing native biodiversity. Deer are hunted annually at the Refuge and browse impacts are minimized as a result allowing for

Climate Action Tool: https://climateactiontool.org/)	healthy understory recruitment and plant species retention. Through use of the climate change adaptation tool we have identified many facets of this project which will help keep this property vital in the face of climate change. By managing for a mosaic of habitats at a large scale (400+ acres), species populations should be buffered from major stress including that from climate change. Virtually all the target species have a southern distribution and prosper in a drought-tolerant landscape. As the climate warms these species should adapt and prosper, assuming habitat is maintained (e.g., regular burning or mowing). Based on sea-level rise projections, some barrens habitat will be lost but very little. Furthermore, active management will shift to ensure all habitats, including the grasslands and shrublands, are maintained in proportion.